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10/039,534	12/31/2001	Adrian Walker		9369

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EXAMINER

JACKSON, JAKIEDA R

ART UNIT PAPER NUMBER

2626

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/039,534	WALKER, ADRIAN	
	Examiner	Art Unit	
	Jakieda R. Jackson	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:
  - The abbreviations/acronyms (SQL, XML and HTML) are not accompanied by the meaning of the term. Expansion of the terms for clarity should be provided.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 is rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

4. Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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5. Claim 1 which is intended to embrace both product or machine and process is invalid under 35 USC 112, second paragraph, since claim which purports to be both machine and process is ambiguous and therefore does not particularly point out and distinctly claim subject matter of the invention. *See Ex parte Lyell (BdPatApp&Int) 17 USPQ2d 1548.*

***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claim 1 which is intended to embrace both product or machine and process is precluded by language of 35 USC 101 which sets forth statutory classes of invention in alternative only. *See Ex parte Lyell (BdPatApp&Int) 17 USPQ2d 1548.*

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. **Claims 1-2 and 4-6** are rejected under 35 U.S.C. 102(e) as being anticipated by Fain et al. (USPN 2002/0169597), hereinafter referenced as Fain.

Regarding **claim 1**, Fain discloses a computer-implemented method and system to allow an end user, who need not be trained as a database administrator or as an application programmer (column 4, paragraph 0062), to write a highly declarative specification of a master-detail application of a relational database, using sentences containing his own natural language words and phrases (accepting natural language utterances; column 2, paragraph 0017-0018) and place-holders (figure 6; column 5, paragraph 0070), to directly run the specification as though it were a program (executing computer instructions; columns 2-3, paragraph 0020), and to directly and automatically obtain explanations of the results (column 3, paragraph 0025).

Regarding **claim 2**, Fain discloses the method further comprising a notation in which an end user can specify an application over a database using his own natural-language words and phrases in syllogisms containing place holders (figure 6; column 5, paragraph 0070), including master-detail syllogisms containing indented conclusion lines, and in which an end user can write tables of data with heading lines containing his own natural-language words and phrases and place holders (figure 6).

Regarding **claim 4**, Fain discloses the method further comprising a step in which a master-detail syllogism is compiled into a hierarchical data structure containing variables (structure data hierarchy; column 4, paragraph 0063 and columns 4-5, paragraph 0067 and column 6, paragraph 0081).

Regarding **claim 5**, Fain discloses the method further comprising a method of directly executing a highly declarative specification of a master-detail application of a relational database (relationship), such that an answer to an input question is a master-detail hierarchy that logically follows from the specification and the database (logical organization of data structures; column 3, paragraph 0021).

Regarding **claim 6**, Fain discloses the method, further comprising a method of directly and automatically providing explanations of results obtained from highly declarative end user specifications of master-detail applications of relational databases (column 3, paragraph 0021 and column 4, paragraph 0061).

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. **Claims 1 and 5-6** are rejected under 35 U.S.C. 102(b) as being anticipated by Steinberg et al. (USPN 5,365,433), hereinafter referenced as Steinberg.

Regarding **claim 1**, Steinberg discloses a computer-implemented method and system to allow an end user, who need not be trained as a database administrator or as an application programmer (end user who does not have any training or experience), to write a highly declarative specification of a master-detail application of a relational

database (to interface with a database management system), using sentences containing his own natural language words and phrases and place-holders (English sentences), to directly run the specification as though it were a program, and to directly and automatically obtain explanations of the results (program a functional database; column 3, lines 22-42).

Regarding **claim 5**, Steinberg discloses the method further comprising a method of directly executing a highly declarative specification of a master-detail application of a relational database, such that an answer to an input question is a master-detail hierarchy that logically follows from the specification and the database (logical schema; column 3, lines 43-62).

Regarding **claim 6**, Steinberg discloses the method, further comprising a method of directly and automatically providing explanations of results obtained from highly declarative end user specifications of master-detail applications of relational databases (relational database; column 6, lines 8-14).

### ***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. **Claims 3 and 7-12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Fain in view of White et al. (USPN 6,618,732), hereinafter referenced as White.

Regarding **claim 3**, Fain discloses the method further comprising a step in which the method and system maintain a correspondence between (a) a sentence containing one or more place-holders (figure 6; column 5, paragraph 0070), the sentence having been written by the end user using natural language words and phrases of his own choosing (column 4, paragraph 0062), and (b) an internal notation consisting of a logical predicate in which variables correspond respectively to the place holders (column 3, paragraph 0021 with column 6, paragraphs 0081-0084), and in which the predicate name corresponds to the rest of the sentence (column 4, paragraph 0061), but does not specifically teach that the correspondence being maintained automatically by the method without necessarily requiring the separate maintenance of any natural language dictionary or grammar.

White discloses a database query handler wherein the correspondence being maintained automatically by the method without necessarily requiring the separate maintenance of any natural language dictionary or grammar (column 2, lines 14-20), to enable a user to efficiently and effectively design and maintain a database.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system wherein the correspondence being maintained automatically by the method without necessarily requiring the separate maintenance of any natural language dictionary or grammar,



because such a method enables a user to efficiently and effectively design and maintain databases and also understand the organization of data elements in such databases (column 2, lines 14-20).

Regarding **claim 7**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training, but does not specifically disclose the method further comprising steps such that, the range of applications that an end user can specify is not limited by a logical schema that must be pre-written, and maintained, by a Database Administrator.

White discloses a database query handler further comprising steps such that, the range of applications that an end user can specify is not limited by a logical schema that must be pre-written, and maintained, by a Database Administrator (column 2, lines 14-20), to enable a user to efficiently and effectively design and maintain a database.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that, the range of applications that an end user can specify is not limited by a logical schema that must be pre-written, and maintained, by a Database Administrator, because such a method enables a user to efficiently and effectively design and maintain databases and also understand the organization of data elements in such databases (column 2, lines 14-20).

Regarding **claim 8**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training (column 4, paragraph 0062), but does not specifically disclose the method further comprising steps such that

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the range of applications that an end user can specify is not limited by components that must be written and maintained by an application programmer.

White discloses a database query handler further comprising steps such that the range of applications that an end user can specify is not limited by components that must be written and maintained by an application programmer (column 2, lines 14-20), to enable a user to efficiently and effectively design and maintain a database.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that the range of applications that an end user can specify is not limited by components that must be written and maintained by an application programmer, because such a method enables a user to efficiently and effectively design and maintain databases and also understand the organization of data elements in such databases (column 2, lines 14-20).

Regarding **claim 9**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training, but does not specifically disclose the method further comprising steps such that, parts or all of the direct execution method for, and of the direct explanation method for, a highly declarative end user specification of a master-detail application of relational databases, are automatically compiled, for efficiency, into the database access language SQL.

White discloses a database query handler further comprising steps such that, parts or all of the direct execution method for, and of the direct explanation method for, a highly declarative end user specification of a master-detail application of relational

databases, are automatically compiled, for efficiency, into the database access language SQL (SQL; column 21, lines 13-46), to comply with standard interface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that, parts or all of the direct execution method for, and of the direct explanation method for, a highly declarative end user specification of a master-detail application of relational databases, are automatically compiled, for efficiency, into the database access language SQL, because this approach enhances communication using query and data manipulation commands communicated over a network (column 21, lines 31-46)

Regarding **claim 10**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training, but does not specifically disclose the method further comprising steps such that, the input master-detail and other information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation.

White discloses a database query handler further comprising steps such that, the input master-detail and other information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation (XML; column 21, lines 13-46), to comply with standard interface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that, the input master-detail and other information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation, because this approach enhances communication using query and data manipulation commands communicated over a network (column 21, lines 31-46).

Regarding **claim 11**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training, but does not specifically disclose the method further comprising steps such that, the input table information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation.

White discloses a database query handler further comprising steps such that, the input table information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation (XML; column 21, lines 13-46), to comply with standard interface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that, the input table information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the

notation known as HTML, or in other similar tagged notation, because this approach enhances communication using query and data manipulation commands communicated over a network (column 21, lines 31-46)

Regarding **claim 12**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training, but does not specifically disclose the method further comprising steps such that, the output master-detail and other information is made available from the direct execution method, and from the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation.

White discloses a database query handler further comprising steps such that, the output master-detail and other information is made available from the direct execution method, and from the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation (XML; column 21, lines 13-46), to comply with standard interface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that, the output master-detail and other information is made available from the direct execution method, and from the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation, because this approach enhances communication using query and data manipulation commands communicated over a network (column 21, lines 31-46)

14. **Claims 9-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fain in view of Sarkar (USPN 6,012,067).

Regarding **claim 9**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training, but does not specifically disclose the method further comprising steps such that, parts or all of the direct execution method for, and of the direct explanation method for, a highly declarative end user specification of a master-detail application of relational databases, are automatically compiled, for efficiency, into the database access language SQL.

Sarkar discloses a method and apparatus for storing and manipulating objects in relational data further comprising steps such that, parts or all of the direct execution method for, and of the direct explanation method for, a highly declarative end user specification of a master-detail application of relational databases, are automatically compiled, for efficiency, into the database access language SQL, (SQ; column 7, lines 3-5 with column 11, lines 43-67), to communicate with databases and to trigger against logical schema without worrying about the physical distribution of the components.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that, parts or all of the direct execution method for, and of the direct explanation method for, a highly declarative end user specification of a master-detail application of relational databases, are automatically compiled, for efficiency, into the database access language SQL, because this approach enhances the capability of

relational database servers by putting application business logic inside the relational database server (column 7, lines 1-9).

Regarding **claim 10**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training, but does not specifically disclose the method further comprising steps such that, the input master-detail and other information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation.

Sarkar discloses a method and apparatus for storing and manipulating objects in relational data further comprising steps such that, the input master-detail and other information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation (HTML; column 10, lines 49-51), to point to different components in the same web object.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that, the input master-detail and other information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation, because this approach constructs the web object back and apply further manipulating over the object (column 10, lines 46-62).

Regarding **claim 11**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training, but does not specifically disclose the method further comprising steps such that, the input table information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation.

Sarkar discloses a method and apparatus for storing and manipulating objects in relational data further comprising steps such that, the input table information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation (HTML; column 10, lines 49-51), to point to different components in the same web object.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that, the input table information is made available to the direct execution method, and to the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation, because this approach constructs the web object back and apply further manipulating over the object (column 10, lines 46-62).

Regarding **claim 12**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training, but does not specifically disclose the method further comprising steps such that, the output master-



detail and other information is made available from the direct execution method, and from the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation.

Sarkar discloses a method and apparatus for storing and manipulating objects in relational data further comprising steps such that, the output master-detail and other information is made available from the direct execution method, and from the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation (HTML; column 10, lines 49-51), to point to different components in the same web object.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that, the output master-detail and other information is made available from the direct execution method, and from the direct explanation method, in the notation known as XML, or in the notation known as HTML, or in other similar tagged notation, because this approach constructs the web object back and apply further manipulating over the object (column 10, lines 46-62).

Regarding **claim 13**, Fain discloses a method and system that allows an end user to write a specification without necessarily requiring training, but does not specifically disclose the method further comprising steps such that, the output master-detail and other information is made available from the direct execution method, and from the direct explanation method, in end user readable displays containing nested master-detail tables.

Sarkar discloses a method and apparatus for storing and manipulating objects in relational data further comprising steps such that, the output master-detail and other information is made available from the direct execution method, and from the direct explanation method, in end user readable displays containing nested master-detail tables (figure 3; column 9, lines 32-46), to obtain relational operations constructing different types of record sets.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fain's method and system further comprising steps such that, the output master-detail and other information is made available from the direct execution method, and from the direct explanation method, in end user readable displays containing nested master-detail tables, because this approach embeds business logic over a subset of records constructed by queries (column 9, lines 32-46).

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Ohara et al. (USPN 6,366,300) discloses a visual programming method and its system.
- Bharat et al. (USPN 6,411,952) discloses a method for learning character patterns to interactively control the scope of a web crawler.

- Maloney et al. (USPN 5,701,453) discloses a logical schema to allow access to a relational database without using knowledge of the database structure.
- Sharif-Askary et al. (USPN 5,649,190) discloses a multi-model database system for dynamic creation and maintenance of complex objects in a real time environment.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571.272.7619. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571.272.7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRJ  
March 7, 2006

  
**RICHEMOND DORVIL**  
**SUPERVISORY PATENT EXAMINER**